U.S. Army Medical Research and Materiel Command

"Protect, Project, Sustain"

U.S. Army Accessions Command

Accessions Research Consortium

27-29 January 2004
Joe E. Mann Center, Fort Jackson, SC

MG Lester Martinez-Lopez
Commanding General, USAMRMC, Fort Detrick, MD

AMEDD Mission

- **Project and Sustain a Healthy and Medically Protected Force**
- **Train, Equip and Deploy the Medical Force**
- **Manage and Promote the Health of the Soldier Family and the Military Family**

Improving the Nation's defense through technology, science, and systems management to support the Soldier…

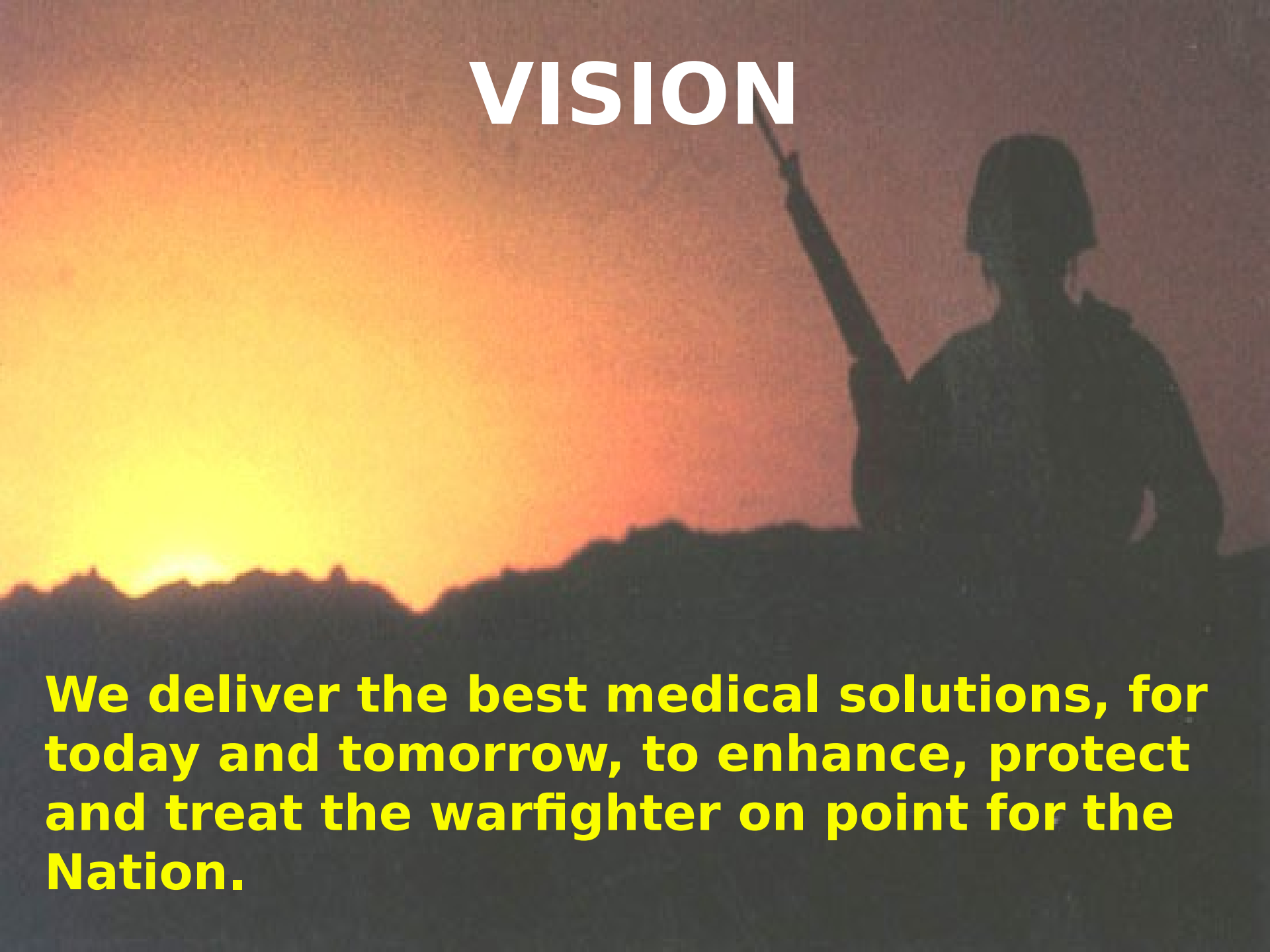
The U.S. Army Medical Research and Materiel Command

"Protect, Project, Sustain"

USAMRMC Mission

- Project and Sustain a Healthy and Medically Protected Force
- Be an Agent of Transformation for the Future Medical Force
- Enhance the Care of Service Members and the Military Family by Leveraging Medical Solutions

VISION



We deliver the best medical solutions, for today and tomorrow, to enhance, protect and treat the warfighter on point for the Nation.

Medical Technology And Knowledge: Support Across the Warfighter Life Cycle

DEVELOPING A FIT AND READY FORCE

Threats to Soldier Health and Performance

Future Force Faces Historical and New Threats

Endemic Disease Threats
- Parasitic Diseases
- Bacterial Diseases
- Viral Diseases

- ***FUTURE: Emerging diseases and drug resistance***

Operational Stressors
- Sleep Deprivation
- Traumatic Stress and Situational Stressors
- Physical Work Load
- Cognitive Burden and Operational Complexity

- ***FUTURE: Increased mental demands, dispersion, isolation, velocity, and lethality = increased stress***

ental

Cold

Altitude

- Toxic Industrial Chemicals and Materials

- ***FUTURE: <96 hours from anywhere***

Chemical/Biological Warfare Threats

Bacterial Threats
- Viral Threats
- Toxin Threats
- Nerve Agents
- Vesicant

- ***FUTURE: Designer Threats***

Combat Injuries
- Hemorrhage
- Head Trauma

Systems Hazards
- RFR
- Laser
- Blast
- Biomechanical Insults and

sses

- ***FUTURE: New operational concepts require new casualty care capabilities***
- ***FUTURE: New weapons systems potentially pose new systems hazards***

Inadequate Medical Situational Awareness

- **FUTURE: Increased optempo/reduced manning <u>increases nonbattle injury</u> risk and impact**

Medical Challenges for Army Accession Command

Physical Training

Physical Health Issues

Basic Research

Psychological Issues

Medical Challenges for Army Accession Command

- **Physical Training**
  - **Injury Prevention: Stress Fracture**
    - **Stress fractures are one of the most common and potentially debilitating overuse injuries seen in military recruit population**
    - **Incidence rates in the U.S. Arm**

      in males, 3.4 - 21.0% in female

Improved training to prevent injury, Advanced bone imaging, Interventions to enhance bone strength

Medical Challenges for Army Accession Command

- **Physical Health Issues**
  - **Epidemiological Concerns**
    - **Acute respiratory infections, asthma screening**
  - **Weight/Body Fat Standards**
    - **Recruits heavier, soldiers dieting (extreme eating practices) to avoid exceeding screening weight and being taped, gender inequities in screening table weights exist**
  - **Recruit Assessment Program (RAP**
    - **Baseline data essential to future read**

Respiratory studies to reduce lost training time,
Strategies to reduce weight-related attrition,
Recruit screening to maintain comprehensive health and risk factor
data on all accessions at time of initial training

Medical Challenges for Army Accession Command

- **Basic Research**
  - **Biomolecular Indicators for FHP**
    - **Exposures to environmental hazards, food and water contaminants, toxic waste from operational/industrial activity**
    - **Soldiers need early warning of hazards, rapid assessment and testing technologies**

Improved sampling and analysis equipment, Development of biomarkers of exposure, effect, and susceptibility, Enhanced individual exposure monitoring and documentation, New chemical hazard assessment models

Medical Challenges for Army Accession Command

- **Psychological Issues**
  - **Building resilience in IET soldiers**
    - **Over 1/3 of enlisted Soldiers fail to complete their first term of enlistment, over 7% of the entire force receives outpatient treatment for a mental disorder each year, over 1/4 of these personnel leave military service within 6 months**
    - **Requires examination of existing health care data, evaluation of latest cognitive assessment technologies, data collection during deploym**

Methods to assess cognitive function in the field,
Method for psychological health screening in deployed troops,
Criteria for identifying vulnerable Soldiers in training and operational environments

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